rived from the 3 phase III clinical trials of tapentadol PR in osteoarthritis and lower back pain and published literature. Switch rates to 2nd line therapies and co-medication costs were provided by the National Centre of Pharmacoeconomics based on the GMS database analysis. Costs of physician visits were obtained by applying local costs to the number of physician visits in each therapy line obtained from a retrospective analysis of the UK THIN database of GP patient records. One-way deterministic and probabilistic sensitivity analyses were undertaken to assess the impact of parameter uncertainty. **RESULTS:** Mean annual total costs per patient from GMS Scheme perspective amount to 4,367€ for tapentadol vs. 4,381€ for oxycodone. Tapentadol generates 0.6316 QALYs compared to 0.6122 QALYs for oxycodone, resulting in tapentadol being a dominant treatment. For DP/LTI Scheme, tapentadol had an ICER of 1,662 €/QALY gained. Results were robust in a broad range of sensitivity analyses. Probability that tapentadol is cost-effective vs. oxycodone at threshold of 20,000 €/QALY gained exceeded 95%. **CONCLUSIONS:** Compared to oxycodone CR, the most commonly used oral drug for chronic severe non-cancer pain in Ireland, tapentadol PR appears to be a highly cost-effective treatment option.

PSY32

MODELING COST-EFFECTIVENESS OF DRUG TREATMENTS FOR SEVERE CHRONIC NON-CANCER PAIN IN PORTUGAL

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OBJECTIVES: To assess the cost-effectiveness of tapentadol PR compared to opioids (morphine, oxycodone, transdermal buprenorphine [TDB] and transdermal fentanyl [TDF]) for the treatment of severe chronic non-cancer pain from the societal perspective in Portugal. **METHODS:** A one year Markov transition state model with monthly cycles was built. Four health states were defined: 'no withdrawal and no adverse events treated', 'occurrence of adverse events (AEs) with need for medical treatment', 'withdrawal due to AEs', and 'withdrawal due to lack of efficacy'. If patients did not adequately respond to treatment or withdraw, switching to alternative second line opioid (morphine, hydromorphone, TDB or TDF) was considered. Third line therapy was the absorption state. Data regarding efficacy, tolerability and utility values (EQ-5D) were derived from clinical trials and published literature. Switch rates to subsequent opioid therapies and resource consumption were estimated by clinical experts. Costs were calculated from the societal perspective. Direct costs were calculated based on official Portuguese prices/tariffs, indirect costs derived from the National Health Survey. One-way and probabilistic sensitivity analyses were conducted. **RESULTS:** Mean annual total costs per patient amounted to 3793 € for morphine, 3,804€ for TDF, 3891 € for TDB, 3964 € for oxycodone, and 4117 € for tapentadol. Total QALYs generated were 0.6102 (morphine), 0.6062 (TDF), 0.6026 (TDB), 0.6096 (oxycodone), and 0.6287 (tapentadol). The resulting ICERs (€/QALY gained) for tapentadol yield 7,995 versus oxycodone, 8,685 versus TDB, 13,943 versus TDF, and 17,547 versus morphine. Varying costs, probabilities, and utilities by ±50%, ±10%, and ±10%, respectively, resulted in an ICER range from tapentadol being dominant (vs. oxycodone) to 26,000 €/QALY gained (vs. morphine). **CONCLUSIONS:** To improve pain relief and quality of life in patients with severe chronic pain tapentadol appears to be the favourable and cost-effective treatment option from the societal perspective in Portugal.

PSY33

CLINICAL AND ECONOMIC ANALYSIS OF ELTROMBOPAG IN CHRONIC IDIOPATHIC THROMBOCYTOPENIC PURPURA IN CONTEXT OF RUSSIAN HEALTH CARE SYSTEM

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OBJECTIVES: The emergence of new drugs for the treatment of patients with chronic idiopathic thrombocytopenic purpura (ITP), stimulates the proliferation of megakaryocyte germ (eltrombopag), stresses the need to conduct a comparative analysis in their cost-effectiveness, compared with other modern treatment options. **METHODS:** Markov modeling was used. Markov model, developed by GlaxoSmithKline, was adapted to the context of Russian health care system to assess cost-utility and cost-effectiveness of eltrombopag and romiplostim for treatment of chronic ITP in patients, for whom splenectomy is contradicted. Eltrombopag and romiplostim were used as first-line options. The simulation was performed taking into account the time perspective for 2 years, 10 and 20 years. Data about diagnosis and treatment of ITP in "real world" settings was collected by interviewing 5 expert-hematologists with expertise in the treatment of chronic ITP, working in different health facilities in Russia. Only direct medical costs were calculated. **RESULTS:** Cost-effectiveness ratio for criterion "additional years of life" after 2 years of onset was $27,703 for eltrombopag and $31,988 for romiplastim, after 10 years of onset – $21,758 and $24,700 respectively, after 20 years of onset – $17,257 and $19,577 respectively. Cost of QALY after 2 years of onset was $39,000 for eltrombopag and $45,530 for romiplastim, after 10 years of onset – $35,108 and $40,218 respectively, after 20 years of onset – $32 527 and $37,204 respectively. **CONCLUSIONS:** Eltrombopag is cost-effective compared with romiplostim as a first-line therapy in treatment of chronic idiopathic thrombocytopenic purpura in patients, for whom splenectomy is contradicted.

PSY34

ECONOMIC EVALUATION OF FERINJECT IN THE TREATMENT OF ANEMIA PATIENTS IN THE GREEK HOSPITAL SETTING: A COST MINIMIZATION ANALYSIS

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OBJECTIVES: To conduct an economic evaluation comparing, ferinject (Ferric Carboxymaltose) with Venofer (iron sucrose), iron sucrose similars (ISS-generic forms of iron sucrose) and Cosmofer (low molecular weight-LMW iron dextran) in the management of anaemia patients in Greece. **METHODS:** A cost-minimization analysis, from National Health System (NHS) perspective, was conducted since there are no clear data indicating that one of these regimens is superior to the others in terms of efficacy. Because iron could be administered either to inpatients (i.e., surgical patients or patients hospitalized due to a disease related to chronic or acute blood loss) or to outpatients (i.e. non-dialysis chronic kidney disease patients etc), the economic evaluation was undertaken for these two large categories of patients, separately. Total cost related to each treatment includes the cost of drugs, the cost of disposables for each infusion, the monitoring cost during infusion (salaries of personnel), the cost for management of adverse events, the cost of visits, the productivity loss, and the travelling cost of patients. A supplementary budget impact analysis was also conducted. **RESULTS:** The mean total (direct) cost of therapy with Ferric Carboxymaltose was €216.32, in the iron sucrose arm the cost was €296.34, in the LMW iron dextran arm was €251.12, while in the ISS the cost was estimated at €324.47 for inpatients. In the case of outpatients the cost of ferric carboxymaltose was €152.66, the cost of iron sucrose was €285.10, the cost of LMW iron dextran was €459.88 and the cost of ISS was estimated at €313.13. Various sensitivity analyses showed that the main results were robust, reaching a statistical significant difference in 95% level of significance. **CONCLUSIONS:** Ferric Carboxymaltose represents a cost-saving option compared with other alternative therapies used in the management of anaemia in the National Health Service of Greece.

PSY35

ECONOMIC EVALUATION OF DARBEPOETIN ALFA IN THE MANAGEMENT OF END STAGE RENAL DISEASE (ESRD) PATIENTS WITH ANEMIA IN THE GREEK NHS SETTING

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OBJECTIVES: To conduct an economic evaluation for End Stage Renal Disease (ESRD) diabetic and non diabetic patients treated with Darbepoetin alfa, Epoetin alfa, Epoetin beta and Epoetin Beta (Methoxy polyetylene Glycol). **METHODS:** A cost-minimization analysis was conducted since there are no clear data indicating differences in terms of efficacy. A probabilistic Markov model was constructed to simulate during a 20-year time span the progress of patients through four health states: "dialysis", "transplantation", "dialysis after graft failure" and "death". The dose required to maintain the desirable Hb level (10 – 12 g/dL) was obtained from the literature alongside transition probabilities for the baseline cohort (mean age 65, diabetics 54%). Costs were estimated from the perspective of the healthcare system and reflect the drug administration, the monitoring of patients, transplantations and other resources consumed by patients valued at €2011. A 3.5% discount rate was used for outcomes. **RESULTS:** The mean survival (common for all comparators) expressed in terms of QALY's was 2.16 (95%Uncertainty Interval (UI): 2.11-2.21) overall, and 2.23 (95%UI: 2.18-2.29) and 2.10 (95%UI: 2.05-2.14) for patients without and with diabetes, respectively. The mean total treatment cost for patients on Darbepoetin alfa was 11,505 (95%UI: €11,322-€11,680) for the entire population, €11,103 (95%UI: €10,906-€11,299) for diabetic and €11,976 (95%UI: €11,739-€12,197) for non-diabetic patients. The mean cost of patients on Epoetin alfa was €15,340 (95%UI: €15,118-€15,554), €14,720 (95%UI: €14,466-€14,976), and €16,068 (95%UI: €15,760-€16,343) respectively. The cost of Epoetin beta was €15,038 (95%UI: €14,783-€15,292), €14,435 (95%UI: €14,160-€14,707) and €15,746 (95%UI: €15,434-€16,063) respectively. Finally, for patients on Epoetin Beta (Methoxy polyetylene Glycol), it was €12,057 (95%UI: €11,868-€12,238), €11,624 (95%UI: €11,416-€11,823) and €12,566 (95%UI: €12,320-€12,796) respectively. **CONCLUSIONS:** Darbepoetin alfa (AranespÒ) may represent a cost saving option, compared to other alternative therapies used in the management of ESRD patients in the National Health Service of Greece.

PSY36

MODELLING THE COST-EFFECTIVENESS OF ORLISTAT AS A TREATMENT FOR OBESITY IN PRIMARY CARE

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OBJECTIVES: Obesity represents a considerable and increasing health problem. The objective of this research was to assess the clinical and cost-effectiveness of orlistat in overweight and obese patients in primary care. **METHODS:** A cohort simulation model was built in Simul8 to explore the potential benefits of treatment with orlistat compared with standard care. The model used a lifetime horizon to estimate the incremental cost per quality adjusted life-year (QALY) gained. Clinical effectiveness was modelled using the results of a mixed treatment comparison. Longitudinal analyses of the General Practice Research Database (n=100,000) were used to derive BMI related estimates for times to death, primary myocardial infarction or stroke, onset of type 2 diabetes, and to estimate the natural history of body mass index (BMI) in people who are obese. Annual probabilities of subsequent cardiovascular events were estimated using data from the Nottingham Heart Attack register and South London Stroke register. Health related quality of life values were modelled using a relationship between BMI and EQ-5D data controlling for age an comorbidities. Current event and post-event health states were used to incorporate changes in health related quality of life and costs. **RESULTS:** Deterministic analysis gave a cost per QALY gained (versus placebo) of £1,665, although this figure is sensitive to the baseline BMI, due to the strong correlation of BMI and the risk of

CV events and T2DM. **CONCLUSIONS:** Orlistat is a cost-effective treatment to aid weight reduction in primary care when using a threshold of £20,000 per QALY.

PSY37

ASSESSMENT OF THE GLOBAL COST OF TRANSFUSION IN FRENCH ORTHOPEDIC SURGERY WARDS

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OBJECTIVES: As part of a medico-economic study on a fibrin sealant used in orthopedic surgery to decrease allogeneic transfusion requirement, this study was conducted to evaluate the overall cost of transfusion from hospital perspective. **METHODS:** A multicenter prospective study was carried out from March 14, 2011 to June 1, 2011 in orthopedic surgery wards of 3 French university hospitals. A microcosting has been developed to identify global costs of transfusion through: the acquisition cost of red blood cell (RBC), supplies used for a transfusion, and times spent by medical and nurse staff for the management of the transfusion timed by a pharmacy resident with a stopwatch. Corresponding costs for staff were estimated from mean salaries for medical and non medical staff in 2011. **RESULTS:** Five transfusions were observed in each site. A physician spent 1'01"± 43" (mean ± standard deviation) for the prescription of RBC. Personal care assistants and hospital workers brought samples to the Blood Bank (BB), transmitted the document to the BB, and delivered RBC to the ward which took 10'17"± 05'46" and 10'47"± 03'20" respectively. Nurses spent 52'23"± 04'39" for the control of the documents, the ultimate pre-transfusion control at patient's bedside, the administration of RBC and the monitoring of the transfusion. No adverse event occurred during the study. The mean global cost of the transfusion of a RBC was estimated at 254 Euros. Regarding global cost, management of transfusion was estimated at 31 Euros representing 12% of the overall cost of transfusion. **CONCLUSIONS:** The study shows the heavy workload represented by each transfusion for a nurse in the context of shortage of nurses. These results may be helpful to fill a pharmacoeconomic model used to estimate the incremental cost effective of using fibrin sealant in orthopedic surgery.

Systemic Disorders/Conditions – Patient-Reported Outcomes & Preference-Based Studies

PSY38

ESTIMATING HEALTHY-TIME EQUIVALENTS FOR MIGRAINE TREATMENT OUTCOMES FROM CONJOINT ANALYSIS MEASURES OF PATIENT PREFERENCES

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OBJECTIVES: Evaluate the relative impact of migraine-related outcomes using generalized healthy-time equivalences (HTE). **METHODS:** A best-practice conjoint analysis or discrete-choice experiment (DCE) evaluated migraine-related outcomes reported in the Completeness of Response Survey (CORS). We elicited patients' trade-off preferences for migraine symptoms with different clinically relevant durations, including symptom-free time. Preference-parameter estimates were used to determine the amount of symptom-free time that was utility-equivalent to 24-hour migraine episode profiles described by acute headache, post-headache, and symptom-free phases. These HTEs quantify the impact of migraine-related outcomes using a fully general utility-theoretic conceptual framework. Unlike quality-adjusted life years (QALYs), HTEs do not require assuming that utility of a brief, but severe, outcome is a simple fraction of a quality-adjusted year. Also unlike QALYs, HTEs do not require risk neutrality, and easily account for personal characteristics that may determine preferences for health outcomes. **RESULTS:** A total of 539 people with a self-reported physician diagnosis of migraine completed the survey. As expected, migraineurs were negatively affected by the duration of headache-phase and post-headache-phase symptoms. However, for some groups in the sample we found no statistical difference in relative preferences for different pain severities in the acute headache phase. Subjects had clear preferences for different levels of daily-activity limitations experienced during the post-headache phase. Results also showed that subjects in the sample were averse to risk. We also found preference heterogeneity based on individual characteristics. **CONCLUSIONS:** This study demonstrates the feasibility of obtaining standardized healthy-time equivalences derived from clinically-relevant symptom-duration tradeoff data as a feasible alternative to QALYs for acute, self-limiting conditions. The results also suggest that the assumptions associated with the use of conventional QALYs are not met by our sample of migraineurs; adding to the mounting body of evidence that encourages the use of more flexible utility-theoretic measures of quality-adjusted time.

PSY39

PREDICTORS OF HEALTH UTILITIES AMONG PATIENTS WITH RHEUMATOID ARTHRITIS IN EUROPE

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OBJECTIVES: Previous studies have examined the humanistic burden of rheumatoid arthritis; however, less research has been conducted to understand the factors that are most strongly associated with the health-related quality of life of these patients. **METHODS:** Data from the European 2010 National Health and Wellness Survey (an annual survey of respondents from France, Germany, Italy, Spain, and the UK) were used in the current study. Only respondents who reported being diagnosed with RA (N=498) were included in the analyses. Health state utilities (SF-6D), derived from the SF-12, were examined on a bivariate level across a variety of subgroups (e.g., years diagnosed, treatment status, comorbidities, joints affected, etc). Health state utilities were also predicted from demographic and patient characteristic information using multiple regressions. **RESULTS:** A total of 498 patients (0.86%) reported being diagnosed with RA. These patients were mostly female (64.3%) and had an average age of 52.3 years. Most patients were diagnosed with RA for more than 10 years (55.8%). Several demographic and patient characteristic factors were significantly associated with health state utilities. RA patients in Spain (Adjusted Mean=0.60) and Italy (Adjusted mean=0.53) had the highest and lowest, respectively, utility scores. Severe RA (Adjusted mean=0.51), comorbid Crohn's disease (Adjusted mean=0.52), and RA affecting the spine (Adjusted mean=0.54) were associated with the largest decrements in utility scores (all ps<.05). **CONCLUSIONS:** Although previous studies have documented the burden of RA in Europe, the current study suggests that burden is not uniform. Certain geographies, particularly Italy, are associated with a greater burden for patients with RA. Similarly, patient characteristics, such as arthritis of the spine and comorbid Crohn's disease, have a large effect on the quality of life of these patients. These results suggest a more comprehensive assessment of patient characteristics is necessary to fully capture the quality of life burden of RA.

PSY40

EQ-5D UTILITIES IN PATIENTS WITH CHRONIC PAIN DUE TO OSTEOARTHRITIS OF THE KNEE OR LOW BACK PAIN TREATED WITH TAPENTADOL AND OXYCODONE

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OBJECTIVES: To analyze QoL of patients with chronic pain due to osteoarthritis of the knee (OA) or low back pain (LBP) using the EQ-5D questionnaire in phase III trials with tapentadol prolonged release (PR) and oxycodone controlled release (CR). **METHODS:** Three phase III trials in OA and LBP with the same design included the EQ-5D questionnaire to measure utilities of patients with chronic pain treated with either tapentadol PR, oxycodone CR or placebo. Utilities were obtained at baseline and endpoint (15 weeks). An analysis was performed to explore how EQ-5D distinguished among various health states. **RESULTS:** Mean utility of all patients treated with tapentadol PR (N=978) increased from 0.42 at baseline to 0.60 at endpoint, and for patients treated with oxycodone CR (N=998) from 0.43 at baseline to 0.56 at endpoint, and for patients treated with placebo (N=990) from 0.41 at baseline to 0.55 at endpoint. The increase in utility was significantly higher ($p<0.001$) in patients treated with tapentadol compared to those treated with oxycodone or placebo. Presence and severity of adverse events, as well as insufficient pain relief substantially decreased utility values in both tapentadol and oxycodone treatment groups. Whereas the highest utilities were seen in the groups of patients who had >30% pain improvement and patients who tolerated the treatment (0.69-0.72), patients who withdrew due to an adverse event or due to lack of efficacy had much lower utilities (0.40-0.51). **CONCLUSIONS:** EQ-5D utilities of OA and LBP patients increased significantly compared to baseline when treated with tapentadol PR or oxycodone CR, whereby the increase was significantly higher with tapentadol PR. Sufficient pain relief and reduction of severe treatment-related adverse events resulted in a large beneficial impact on EQ-5D utility values. This analysis clearly demonstrates that the EQ-5D is a useful tool to measure QoL in pain studies.

PSY41

HEALTH STATUS AND HEALTH-RELATED QUALITY OF LIFE REPORTED BY FEMALES WITH BLEEDING DISORDERS FROM THE CANADIAN NATIONAL HAEMOPHILIA REGISTRY

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OBJECTIVES: Compare health measurements of females with bleeding disorders (FBD) to males with von Willebrand disease (VWD) and females in the general population (FGP). **METHODS:** Subjects >12yrs of age, with VWD and FBD in the Canadian national registry were eligible for assessment. Health status and health-related quality of life (HRQL) were measured using the Health Utilities Index Mark 3 (HUI3). The results were compared with normative data by age and gender from the 2002/3 Joint Canada / United States Survey of Health and from the 1991 Canadian General Social Survey. Mean differences and proportions were assessed using t-test and chi square, respectively. Differences >0.05 in mean HRQL scores and >10% for proportions were considered important. Statistical significance was set at $p<0.05$. **RESULTS:** 411 HUI3 assessments were analyzed. Among 20-79 year old FBD, mean HRQL scores were lower (diff>0.150; $p<0.05$) than in FGP. For those <45 years, FBD had lower HRQL scores (diff=0.080; $p=0.027$) than males with VWD. No difference between males with VWD and FBD >45 years of age was observed ($p=0.871$). Excellent health was self-reported by 18.4% of females from the registry compared to 22.7% ($p<0.05$) of FGP and 29.9% ($p=0.02$) of males with VWD. Between FDB and FGP important differences ($p<0.001$) in the proportion reporting disability were observed for HUI3 attributes vision, emotion, cognition, and pain for those <45 years, and ambulation, dexterity, emotion and pain for those >45 years. Between FBD and males with VWD an important difference ($p=0.005$) in the proportion reporting disability was observed for pain. FBD have similar HRQL (0.72) to moderate (0.73) and severe (0.71) HIV-negative haemophiliacs. **CONCLUSIONS:** Females with bleeding disorders have greater morbidity than females in the general population or males with VWD.

PSY42

CHRONIC PAIN: PATIENT TREATMENT PREFERENCES - A DISCRETE CHOICE EXPERIMENT

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